

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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March 16, 2016

TO: All Engineering Criteria Review Board (ECRB or Board) Members

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SUBJECT: **Tesoro-Avon Marine Terminal Project (BCDC Permit No. 2014.006.00)**
Compliance with BCDC Permit Special Condition No. II-J (3rd ECRB Review)
(For ECRB consideration on March 30, 2016)

Project Summary

Project Name. Avon Marine Terminal Marine Oil Terminal and Maintenance Standards (MOTEMS) Compliance Project.

Commission Permit and Permittee. BCDC Permit No. 2014.006.00; Tesoro Refining & Marketing Company, LLC (Tesoro).

Project Representatives. Mark A. Patterson, Tesoro Capital Projects Manager; Chris McDowell, Tesoro Environmental Permitting; Dominick Tagalog, Tesoro Project Engineer; Haze Rodgers, Langan Treadwell Rollo; Justin Bajema with Anvil; Ted Trenkwalder, COWI.

Project Summary. The Tesoro-Avon wharf is an oil terminal located mainly in the Commission's Bay jurisdiction at the southern shore of Suisun Bay, east of the Carquinez Strait and the Benicia-Martinez Bridge, in the City of Martinez, Contra Costa County. The project goal is to upgrade the Avon wharf to meet the standards Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS). The project is currently underway with an anticipated completion date in 2016.

The Commission issued Permit No. 2014.006.00 on July 16, 2015 to allow various activities in its Bay jurisdiction, including: (1) the demolition of a berth (Berth 5) and approachway, both constructed of timber; and (2) the construction of a steel pile-supported approachway, a pipeline trestle supporting existing pipelines, and Berth 1A. The Commission's permit allowed Tesoro to construct the project features cited-above but not the "tie-in" pipeline linking Berth 1A and a section of existing pipeline located approximately 200 feet south of Berth 1A. This restriction on construction activities was included in the Commission's permit in response to the ECRB's advice regarding unresolved issues about the permittee's pipeline displacement analysis.

Project Background. The ECRB conducted an initial review of the project on June 10, 2014. The Board found the engineering criteria acceptable but was concerned about Tesoro's analysis of seismic displacement of the pipeline. Consequently, the Board recommended Tesoro address the following issues regarding the anchoring system of the pipeline in relation to ground motion:

1. Site-specific earthquake ground-motion maximum displacement estimates for the locations of the anchor support systems;
2. How these site-specific ground-motion estimates would be used to infer estimates of the maximum differential ground motion expected between the locations of the anchor supports; and
3. How these differential ground motion displacements, based on a reasonable estimate of how they are transmitted concurrently over time into the anchor support systems, would be considered in the evaluation of pipe stresses and the resultant design of the pipeline.

On August 11, 2015, to facilitate compliance with Special Condition II.J of Commission Permit No. 2014.006.00, the permittee sought further guidance from the ECRB on suggested methods of analyzing displacement of the permitted pipeline system under varying ground motion conditions.¹ At its meeting, the ECRB requested that Tesoro develop a specific response analysis at Anchor Supports 1 and 2. The Board indicated that the analysis of the pipeline displacement should take into account variations in thickness of the ground motion and any impacts of soil failure with respect to the two anchor points. Further, such analysis should examine the possibilities of permanent ground deformation that could influence the pipeline structure's supporting piles. Lastly, potential permanent deformations and time of occurrence should be included in the overall displacement analyses.

As required in the Commission permit, Tesoro was expected to present the displacement analysis at an ECRB meeting following permit issuance. At such meeting, the Board will advise the Commission staff as to whether the analysis supports the operation of the as-built pipeline in accord with sound safety standards. In the event that the information considered by the ECRB and Commission staff indicates that operation of the pipeline system would be

¹ Special Condition J. states: By March 1, 2016, the permittee shall submit a displacement analysis of the pipeway authorized herein to the Commission staff, which will distribute the analysis to the Commission's Engineering Criteria Review Board ("ECRB"). Within 45 days of staff receipt of the information, the permittee shall present the displacement analysis at an ECRB meeting after which the ECRB shall advise the Commission staff as to whether the analysis supports the operation of the as-built pipeway in accord with sound safety standards. In the event that the information considered indicates that operation of the pipeway system would be consistent with the Commission's law and policies, based upon the advice of the ECRB, the Executive Director on behalf of the Commission will provide the permittee with written notification that pipeway and pipeline operation is authorized to proceed. In the event that the ECRB does not provide advice to support the sound operation of the pipeway, the Commission's Executive Director will inform the permittee that the pipeway system operation is not allowed until the matter is resolved. In the event that the permittee wishes to dispute the ECRB's advice, within 30 days of the ECRB meeting, the permittee may appeal the matter, including specific reasons for the appeal, to the Commission's Executive Director and, subsequently, the permittee, the Executive Director, and the Commission's Chairperson shall consult and resolve the dispute. If the dispute remains unresolved, the Commission's Executive Director and Chair shall refer the permittee's dispute to the full Commission for resolution.

consistent with the Commission's law and policies, the permit states that the Executive Director on behalf of the Commission should provide Tesoro with written notification that the authorized pipeline and associated operation is allowed to proceed pursuant to Permit No. 2014.006.00.

Law and Applicable Bay Plan Policy Considerations. The McAteer-Petris Act (Act) requires the Commission to review all proposed projects that involve fill ² in San Francisco Bay, and prohibits the Commission from approving fill projects that, among other things, are deemed unsafe. Specifically, Section 66605(e) of the Act states that the Commission can authorize a project if the fill is constructed "in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters." Further, Section 66605(c) of the Act states that fill should be the "minimum necessary to achieve the purpose of the fill."

To carry out its responsibilities, the Commission adopted policies on the safety of fills. *San Francisco Bay Plan* Policy No. 1 states, in part, that the Commission has appointed and empowered the ECRB to: "(a) establish and revise safety criteria for Bay fills and structures thereon;... (d) with regard to inspection of marine petroleum terminals, make recommendations to the California State Lands Commission [CSLC] and the U.S. Coast Guard [USCG], which are responsible for regulating and inspecting these facilities; (e) coordinate with the [CSLC] on projects relating to marine petroleum terminals fills and structures to ensure compliance with other Bay Plan policies and the CSLC's rules, regulations guidelines and policies;..." Policy No. 2 states, in part, that "[e]ven if the Bay Plan indicates that a fill may be permissible, no fill or building should be constructed if hazards cannot be overcome adequately for the intended use in accordance with the criteria prescribed by the [ECRB]."

Enclosed Material

1. "Memorandum: Responses to BCDC ECRB Comments/Tesoro Avon Terminal/Martinez, California/Langan Project No. 730442610," prepared by Langan Treadwell Rollo, 11 November, 2015.
2. "Seismic Displacement Between Anchor Stations Rev. 5," prepared by Anvil for Tesoro GER, November 2, 2015.
3. Attachment "Power Spectra vs. Capacity (Pushover) Curves/Anchor Station 1 X-Direction."
4. Attachment "Tesoro Responses to ECRB Comments for Avon Wharf Upgrade Project," July 10, 2015.

² Fill is defined in the McAteer-Petris Act as "earth or any other substance or material, including pilings or structures placed on pilings, and structures floating at some or all times and moored for extended periods, such as houseboats and floating docks" (Section 66632(a)).